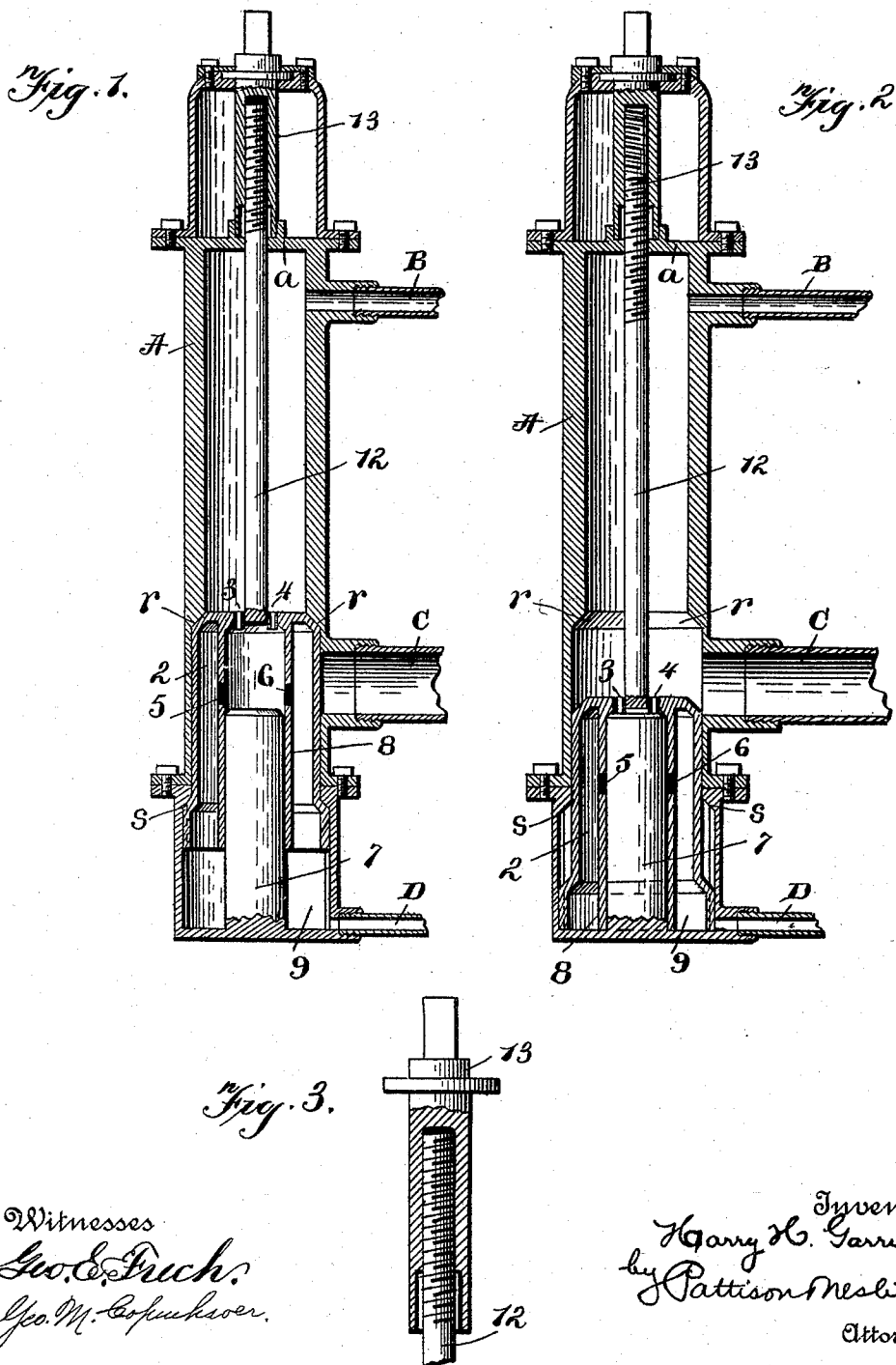


(No Model)

H. H. GARRISON.
WATER PLUG.

No. 584,682.

Patented June 15, 1897.



UNITED STATES PATENT OFFICE.

HARRY H. GARRISON, OF WILKES-BARRÉ, PENNSYLVANIA.

WATER-PLUG.

SPECIFICATION forming part of Letters Patent No. 584,682, dated June 15, 1897.

Application filed February 11, 1897. Serial No. 622,987. (No model.)

To all whom it may concern:

Be it known that I, HARRY H. GARRISON, of Wilkes-Barré, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Water-Plugs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in water-plugs and pertains to a plug constructed to permit an escape of the water remaining in the plug after the inlet thereto from the water-main has been closed, as will be fully described hereinafter, and particularly pointed out in the claims.

The object of my invention is to so construct a water-plug that the water remaining therein after the inlet from the water-main is closed is permitted to escape and pass into the sewer, whereby an antifreezing plug is produced. The particular manner by which this result is accomplished is through the medium of a telescoping valve so arranged and constructed in relation to the water-main and the sewer-outlet that the opening of the valve will close the outlet to the sewer to prevent any escape of the water therethrough and to automatically open the sewer-escape when the valve is closed to permit the escape of the water remaining therein through the sewer or other waste-outlet.

In the accompanying drawings, Figure 1 is a vertical sectional view of a water-plug which embodies my invention, the plug being shown closed. Fig. 2 is a similar view, the plug being shown open. Fig. 3 is an enlarged detail view of the sleeve and its rod for effecting the opening and closing of the valve.

Referring now to the drawings, A indicates the casing or outer tube of the plug, through which the water is communicated to the outlet thereof; C, the inlet from the water-main; B, the outlet through which the water is taken from the plug-tube A, and D the outlet situated at the lower end of the tube A and below the water-main, said outlet having communication in any suitable manner with the sewer or other waste communication or source.

Situated within the tube A, near its upper

end, is a web *a*, and extending from the top of the tube down to said web is a sleeve 13, which sleeve is internally screw-threaded, as clearly shown in Fig. 3. The said sleeve is of a length equal to the travel of the rod 12, which has its upper end passing through said web and into the sleeve, the rod being externally screw-threaded to engage the internal screw-threads of the sleeve. This rod has its lower end connected to a tubular valve 2 within the tube A, the tube and the valve having lateral seating portions *r* at the upper end of the valve and just above the inlet, and also the seating portions *s* at the lower end of the valve and just below the said inlet, to prevent any escape of water between the valve and the tube when the valve is closed, as shown in Fig. 1, the valve extending across the inlet-opening, as shown. Projecting from the lower end of the plug is an extension 7, adapted to pass within the tube 8.

Above the lower end of the valve 2 (which is in the form of an inverted cup) are provided the opening or openings 5 and 6, and situated in the upper end of the valve are the opening or openings 3 and 4, which are adapted to be closed by engagement with the upper end of the extension 7 when the valve is lowered. When the valve 2 is raised for opening the inlet, the openings 3 and 4 are opened by moving out of engagement with said extension 7.

The sleeve or tube 13 is supported in a manner to prevent any vertical movement thereof, but is free to turn. Owing to this construction, it will be seen that when the sleeve is turned the rod will be raised or lowered (according to the direction in which the sleeve is rotated) and consequently the rod correspondingly moved.

The operation is as follows: As illustrated in Fig. 1, the plug is closed and the water remaining therein is permitted a free escape through the valves or openings 3 and 4, the passage-ways or openings 5 and 6 of the depending tube 8, and the space 9 to the sewer or other waste-escape. When the plug is opened, as shown in Fig. 2, by the lowering of the valve 2, the openings 5 and 6 are closed, so that no escape will be permitted to the sewer.

It will be noted that the passage-ways 5 and 6 in the lower end of the tube projecting from

the interior of the valve 2 are so situated that the valve has passed up and entirely closed the water-main inlet before the passages have reached the upper end of the tube 7. This construction prevents absolutely any escape of water to the sewer until the water-main inlet has been entirely closed.

While I have shown the tube 8 provided with the openings 5 and 6, it will be readily understood that the same result will be accomplished by making the tube 8 sufficiently short to be above the upper end of the tube 7 when the valve is closed, which, as will be readily understood, will permit an escape of the water remaining in the plug. Also I desire it noted that while I show the extension 7 adapted to close the openings 3 and 4 at the upper end of the valve this is not absolutely necessary, provided the tube 8 and the extension fit tight enough to prevent any escape of water between them. By having said openings closed by the extension, however, the tube and extension need not fit so tightly.

While I here show and describe a sleeve for operating the rod, I desire to state that other means may be used for elevating the rod without in any manner affecting the other portion of my invention. The sleeve when used may be operated directly or through the medium of a key, as desired.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a casing having inlet and outlet openings, a cup-shaped valve fitting within said casing and extending across said inlet-opening when raised, a waste-escape at the lower end of the casing, said valve having an escape-opening in communication with said waste-escape through said valve, substantially as described.

2. A water-plug comprising a casing having an inlet and an outlet opening, the lower end of the casing being enlarged, a cup-shaped valve fitting within said casing and extending across said inlet when raised, and below it when lowered, valve-seats above and below said inlet, the said valve having an en-

larged lower end fitting the enlargement of the casing and the seat formed by the upper end of the enlargement, and the upper end of the valve having a seat above the said inlet-opening, substantially as described.

3. A water-plug comprising a casing having inlet and outlet openings, a cup-shaped valve fitting within said casing and extending across said opening when raised, a tube carried by and within said valve, the tube having an open lower end and escape-openings in its upper end, a projection extending from the bottom of the casing and fitting within said tube, the tube having openings in communication with the valve when raised, whereby the projection is adapted to close both openings in said tube when the valve is lowered to open the inlet, and the casing having an outlet at its lower end, substantially as described.

4. A water-plug comprising a casing having inlet and outlet openings, a cup-shaped valve fitting within the casing and extending across the inlet when raised, the casing having an escape-opening at its lower end, a tube depending from the inner side of the top of the valve and having openings in its top and side walls, and an extension carried by the casing extending up and telescoping said tube for closing the openings therein when the valve is lowered, substantially as described.

5. A water-plug comprising a casing having inlet and outlet openings, a valve fitting therein and adapted to extend across and close said inlet-opening when raised, the lower end of the casing having a waste-opening, the valve having an escape-opening in communication with the waste-opening through said valve, and an extension projecting upward from said casing and adapted to close the valve-escape when the same is lowered, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY H. GARRISON.

Witnesses:

CHAS. J. RUEFFER,

H. G. SHUPP.